

Title (en)
CERAMIC CARD ASSEMBLY HAVING ENHANCED POWER DISTRIBUTION AND COOLING

Publication
EP 0298211 A3 19910116 (EN)

Application
EP 88106834 A 19880428

Priority
US 7028187 A 19870706

Abstract (en)
[origin: EP0298211A2] A ceramic card assembly which provides high density three dimensional semiconductor device packaging and overcomes the power distribution and thermal management problems that have impaired prior ceramic cards. The ceramic card assembly combines ceramic cards with flexible power distribution structures which provide low inductance and low resistance power distribution, making ceramic cards available for high performance VLSI systems. Each ceramic card assembly comprises a ceramic card having a plurality of chip sites and power contacts thereon, and at least one flexible power distribution structure having alternating insulation (i.e. polyimide) layers and conductor (i.e., copper) layers, the flexible power distribution structures are mounted adjacent to the ceramic cards so that conductive layers of the ceramic cards are selectively exposed to the power contacts. The ceramic card assemblies are preferably combined into a field replaceable unit that includes cold plates between ceramic cards. High density packages further include ceramic in line packages which quadruple current day memory density.

IPC 1-7
H01L 23/36; **H05K 1/14**; **H05K 7/20**

IPC 8 full level
G06F 1/18 (2006.01); **H01L 23/44** (2006.01); **H01L 23/52** (2006.01); **H01L 23/538** (2006.01); **H05K 1/02** (2006.01); **H05K 7/02** (2006.01); **H05K 1/03** (2006.01); **H05K 1/14** (2006.01); **H05K 3/34** (2006.01)

CPC (source: EP US)
G06F 1/189 (2013.01 - EP US); **H01L 23/445** (2013.01 - EP US); **H01L 23/5385** (2013.01 - EP US); **H05K 1/0263** (2013.01 - EP US); **H05K 7/023** (2013.01 - EP US); **H01L 2924/0002** (2013.01 - EP US); **H05K 1/0306** (2013.01 - EP US); **H05K 1/141** (2013.01 - EP US); **H05K 3/3421** (2013.01 - EP US); **H05K 3/3436** (2013.01 - EP US); **H05K 2201/10272** (2013.01 - EP US)

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• [X] PATENT ABSTRACTS OF JAPAN vol. 7, no. 166 (E-188)(1311) 21 July 1983, & JP-A-58 73142 (NIPPON DENKI) 02 May 1983,
• [A] IEEE TRANSACTIONS ON COMPONENTS, HYBRIDS, AND MANUFACTURING TECHNOLOGY vol. CHMT7, no. 4, December 1984, NEW YORK US pages 384 - 393; R.J.JENSEN ET AL.: "Copper/Polyimide Materials System for High Performance Packaging"
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